Regulatory WLAN Antenna Information (Template)

English Language Required for Intel Regulatory Review / Approval

(OEM/ODM or antenna vendor is required to complete this document with platform antenna information.

Remove Intel references and make this your own document)

Platform information

Brand	ODM	****End product model name	Intel platform (ex: Yes, No or NA)	Platform type (ex: regular NB, convertible PC, AIO…etc)	*SAR minimum separation (mm)
ASUS	Compal	E1600WK	Yes	AIO	4.85

*****Please fill in exact product model name and make sure the model name is visible on product cover or any parts for end users recognize for authority inspection.**

Antenna information

Vendor	Type	Antenna Part number (Main)	Antenna Part number (Aux)
High-Tek	PIFA	DC33002OQ00 (0ACCN021035N)	DC33002OQ10 (0ACCN021036N)

Peak gain w/ cable loss (dBi)*

	2.4GHz 2400-2483.5 MHz	5.2GHz 5150-5250MHz	5.3GHz 5250-5350MHz	5.6GHz 5470-5725MHz	5.8GHz 5725-5850MHz	6.2GHz 5925-6425MHz	6.5GHz 6425-6525MHz	6.7GHz 6525-6875MHz	7.0 GHz 6875-7125MHz
Main	1.79	1.9	2.53	2.63	1.28	0.92	0.98	1.48	0.56
Aux	0.99	-0.6	-0.11	1.52	2.10	1.96	1.86	2.87	1.43

Intel Reference Gain/Type/ Separation distance

Antenna Type	Antenna Peak gain (In dBi)*									Distance to the end user (mm)
	2.4GHz 2400-2483.5 MHz	5.2GHz 5150-5250MHz	5.3GHz 5250-5350MHz	5.6GHz 5470-5725MHz	5.8GHz 5725-5850MHz	6.2GHz 5925-6425MHz	6.5GHz 6425-6525MHz	6.7GHz 6525-6875MHz	7.0GHz 6875-7125MHz	
Design	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	Generic sku: refer to modular FCC SAR report Mid-power sku: ≥ 8 mm Low power sku: ≥ 5 mm
PIFA	3.23	3.64	3.73	4.77	4.97	4.83	4.30	5.37	5.59	
Dipole	2.89	2.92	3.19	4.41	4.22	4.83	4.30	4.49	5.34	

Notes (marked with *)

*** SAR minimum separation (mm)**

- Regular NB: Minimum antenna-to-body (from antenna bottom to the bottom of the device)

- Tablet / Convertible PC: Minimum antenna-to-edge (5 sides of the device)

- Mini-tablet: Minimum antenna-to-edge (6 sides of the device)

*** 3D Peak Antenna gain should be equal or greater than -2 dBi**
- If a host integrator plans to use a lower gain antenna of the same type, additional CBP(FCC)/EDT(EU) testing need to be performed while the module is installed in the host.

Antenna Sample / Antenna Data

Requirements for worldwide regulatory approval

Section	Description of Required OEM / ODM Antenna Information	US / IC	EU	Japan	Taiwan	S. Korea
1A	Part Number for Antenna only	Required	Required	Required	Required	Required
1B	Antenna Manufacturer Name	Required	Required	Required	Required	Required
1C	Description of Antenna Type	Required	Required	N/A	N/A	N/A
1D	Part number of Antenna Assembly / cable impedance, length & diameter.	Required	Optional	Optional	Optional	Optional
1E	Main & Aux antenna (Peak Gain W/ cable loss) *	Required	Required	Required	Required	Required
1E OR 1F, 1G, 1H						
1F	Main & Aux antenna (Peak Gain only) *	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Main & Aux antenna (Cable loss W/ connector) *	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of Main & Aux antennas	Required	Required	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	Required	Optional	Required	Required	Required
4	Platform model name / number - correlated to antenna manufacturer and antenna part number	Required	Required	Optional	Required	Optional
5	Photograph(s) or Drawings showing location of antennas in platform. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.	Required	Required	Optional	Required (Photos)	Required (Photos)
6	Mech. drawings / photos with dimensions of antenna locations and distance from end-user (For evaluation of SAR testing requirement).	Required	N/A	N/A	N/A	N/A
7	Photograph(s) or Drawings showing the location of all antennas (WLAN, other) and distance between those transmitting antennas. Information will be used to evaluate whether co-location testing is required.	Required	N/A	N/A	N/A	N/A
8	Local representative contact information for LMA/ PARS process.	Required	N/A	N/A	N/A	N/A
9	Antenna gain range should be equal or greater than -2 dBi. (2.4/5/6GHz: EU, 6GHz: FCC)	Required	Required	N/A	N/A	N/A

Antenna Information

Section 1. Antenna Assembly Specifications

1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E *Total Peak Gain W/ Cable loss (dBi)	1F Total Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
(P/N: DC33002OQ00 (0ACCN021035N)) Main Antenna	High-Tek Electronics Co., Ltd	PIFA	Connector: SpeedTech C87P115-00002-H 50 Ohm Coaxial Cable Length: 200 mm Diameter:1.13 mm	2400-2483.5	1.79	2.54	3.00	0.75
				5150-5250	1.90	2.99	3.00	1.09
				5250-5350	2.53	3.62	3.00	1.09
				5470-5725	2.63	3.76	3.00	1.13
				5725-5850	1.28	2.44	3.00	1.16
				5925-6425	0.92	2.17	3.00	1.25
				6425-6525	0.98	2.25	3.00	1.27
				6525-6875	1.48	2.78	3.00	1.30
				6875-7125	0.56	1.92	3.00	1.36
(P/N: DC33002OQ10 (0ACCN021036N)) Aux Antenna	High-Tek Electronics Co., Ltd	PIFA	Connector: SpeedTech C87P115-00002-H 50 Ohm Coaxial Cable Length: 230 mm Diameter:1.13 mm	2400-2483.5	0.99	1.85	3.00	0.86
				5150-5250	-0.60	0.65	3.00	1.25
				5250-5350	-0.11	1.15	3.00	1.26
				5470-5725	1.52	2.81	3.00	1.29
				5725-5850	2.10	3.44	3.00	1.34
				5925-6425	1.96	3.40	3.00	1.44
				6425-6525	1.86	3.32	3.00	1.46
				6525-6875	2.87	4.37	3.00	1.50
				6875-7125	1.43	3.00	3.00	1.57

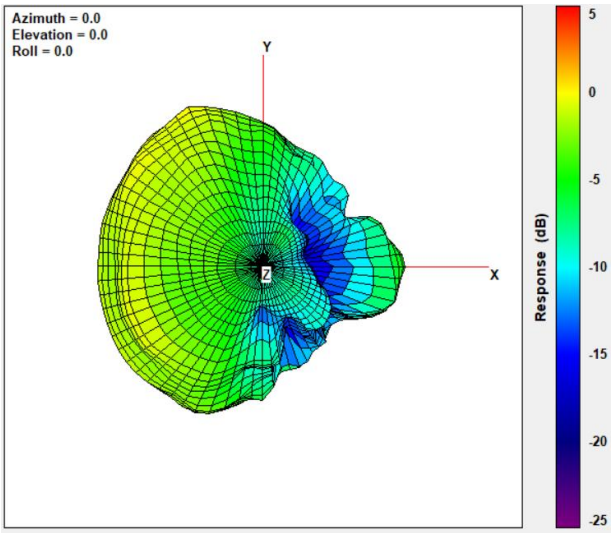
- **3D Antenna Peak Gain required being test in system basis.**

Section 3. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

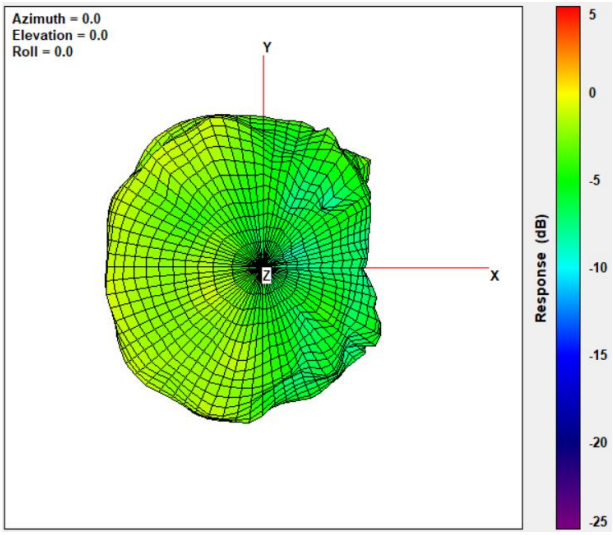
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
2400-2483.5	1.79



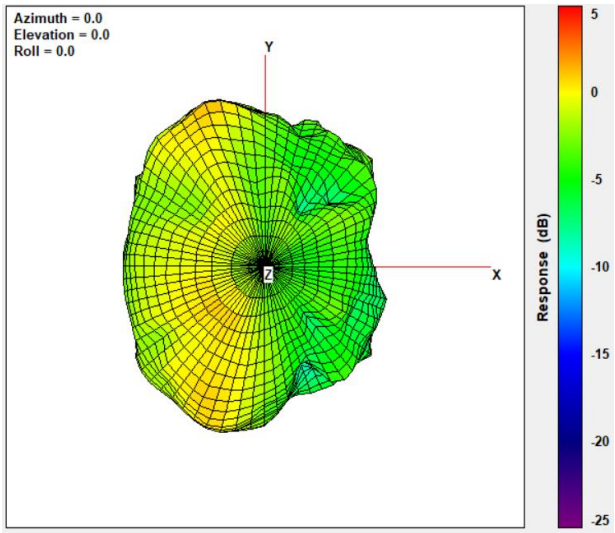
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5150-5250	1.90



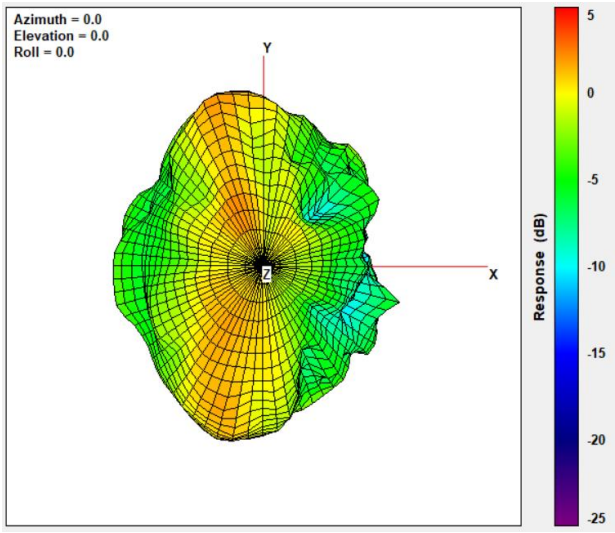
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5250-5350	2.53



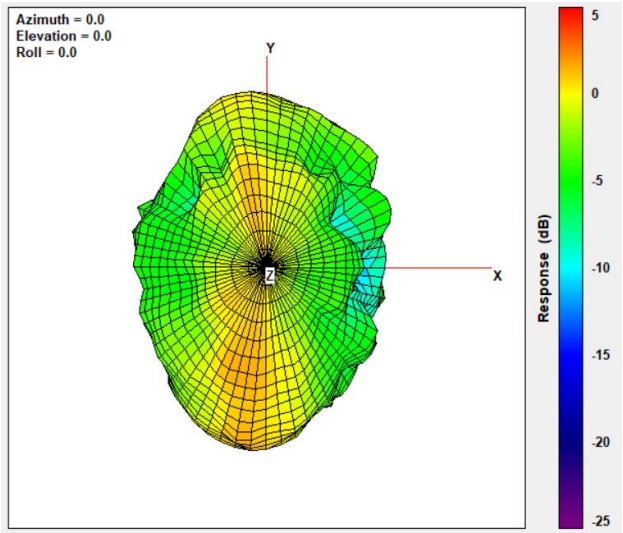
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5470-5725	2.63



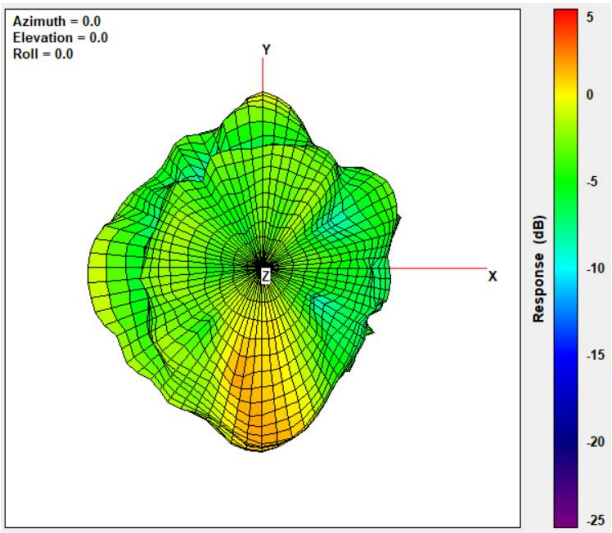
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5725-5850	1.28



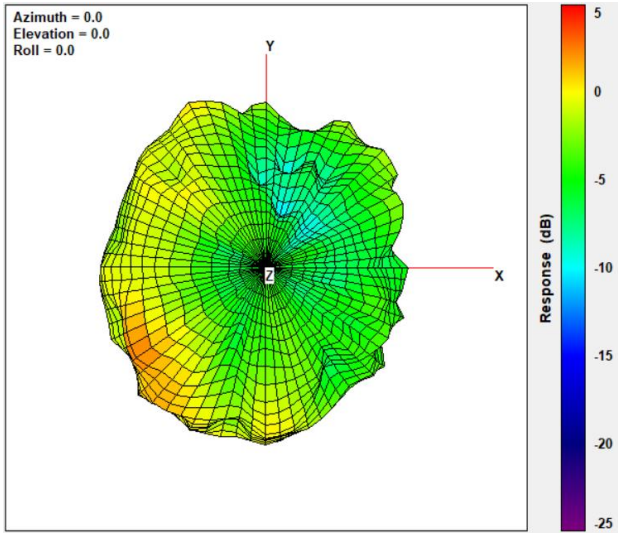
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5925-6425	0.92



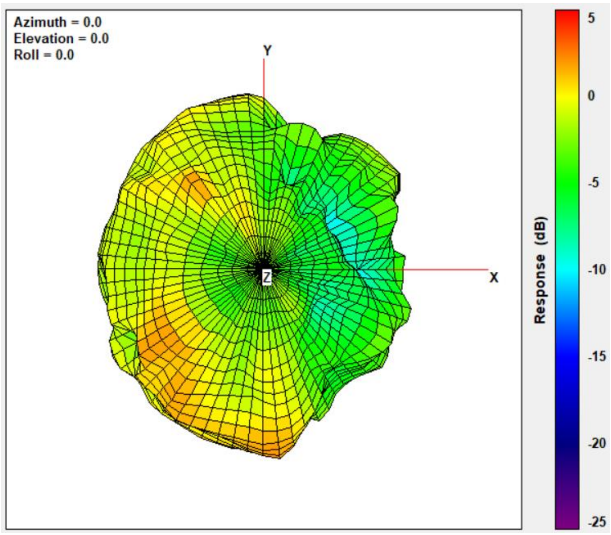
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6425-6525	0.98



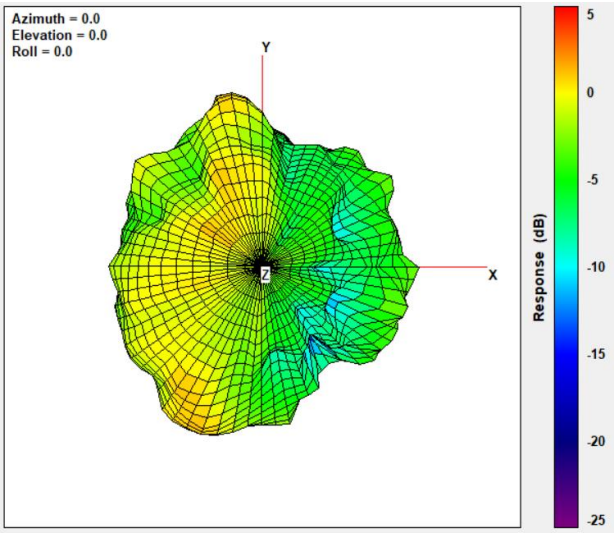
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6525-6875	1.48



Max Antenna 3D Radiation Pattern 6875-7125 MHz

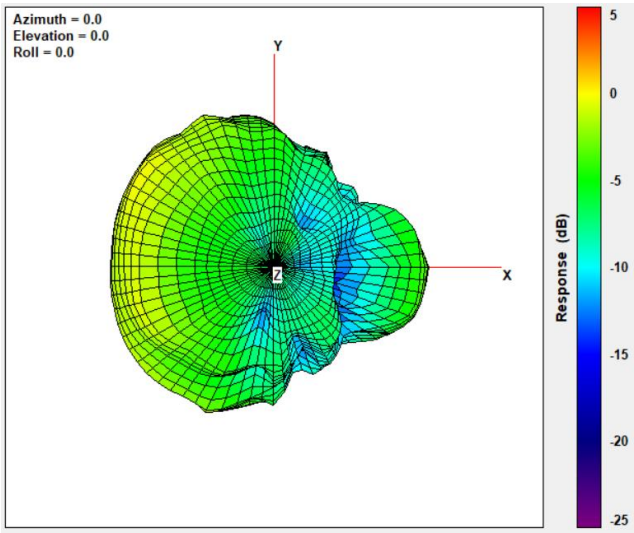
Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6875-7125	0.56



Auxiliary Antenna

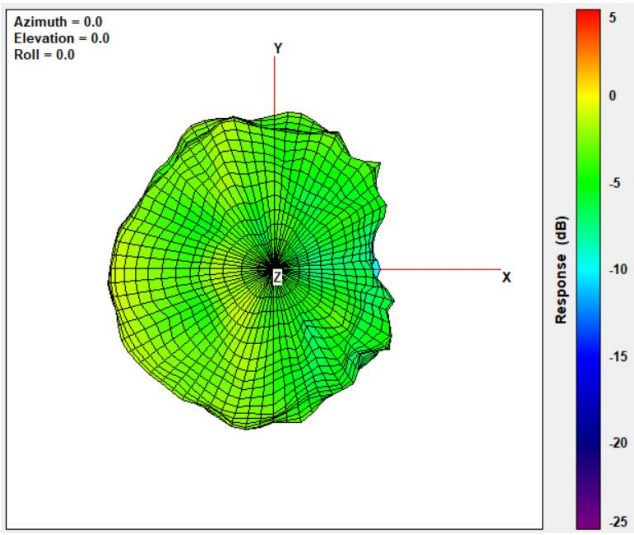
Aux Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
2400-2483.5	0.99



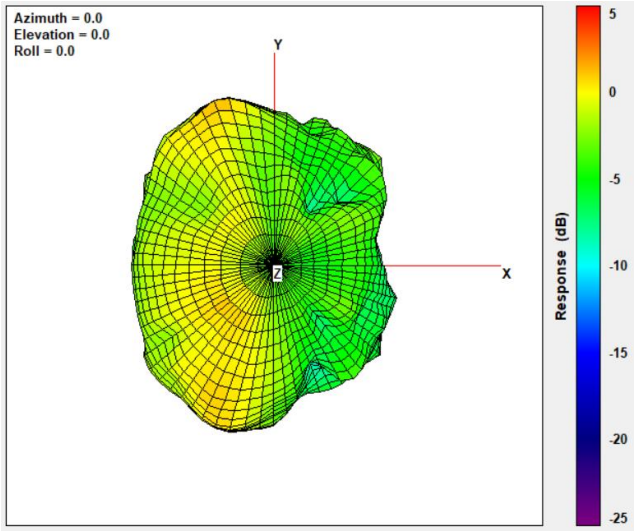
Aux Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5150-5250	-0.60



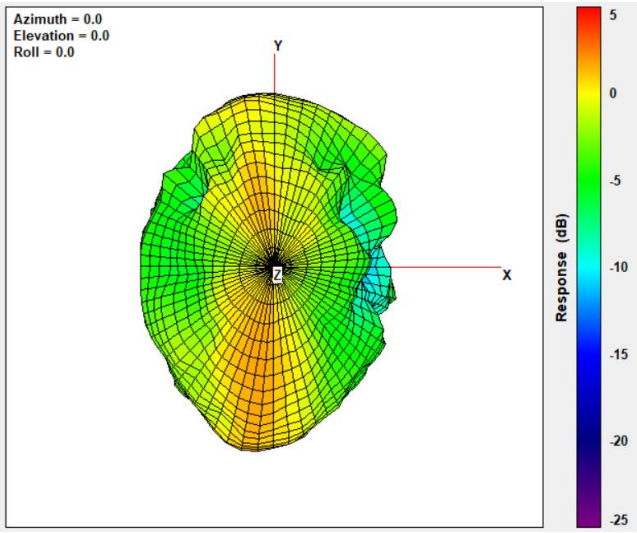
Aux Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5250-5350	-0.11



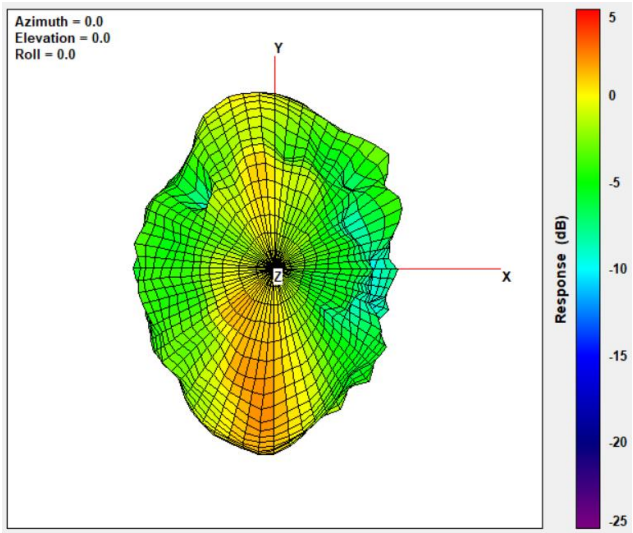
Aux Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5470-5725	1.52



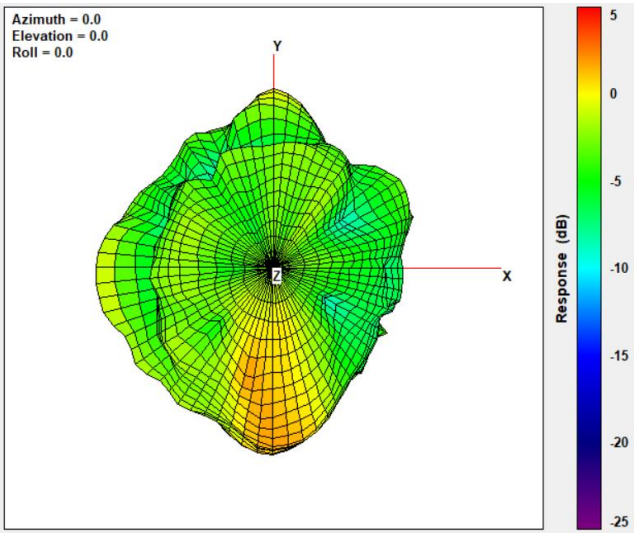
Aux Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5725-5850	2.10



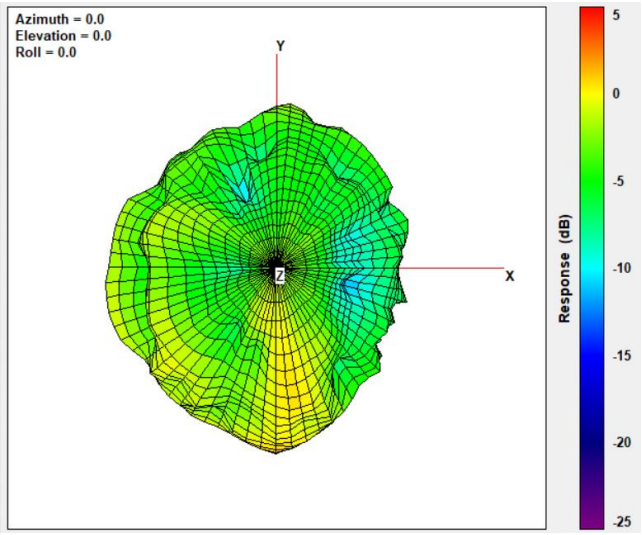
Aux Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
5925-6425	1.96



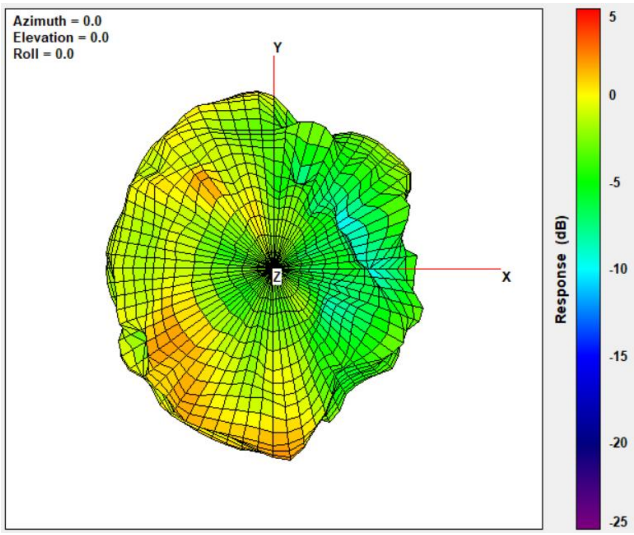
Aux Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6425-6525	1.86



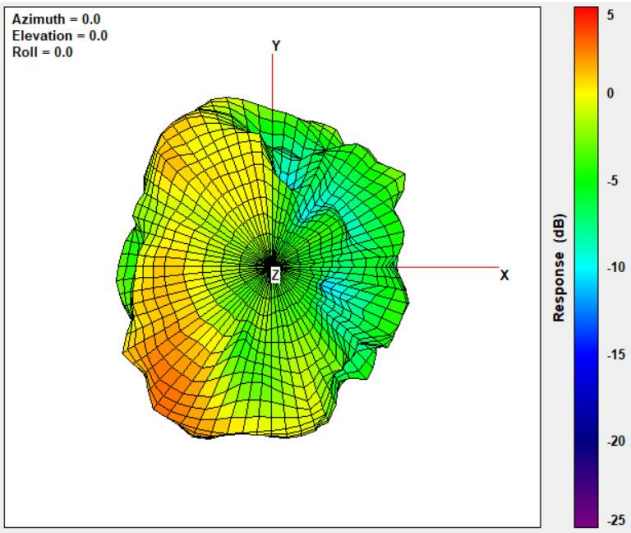
Aux Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6525-6875	2.87



Aux Antenna 3D Radiation Pattern 6875-7125 MHz

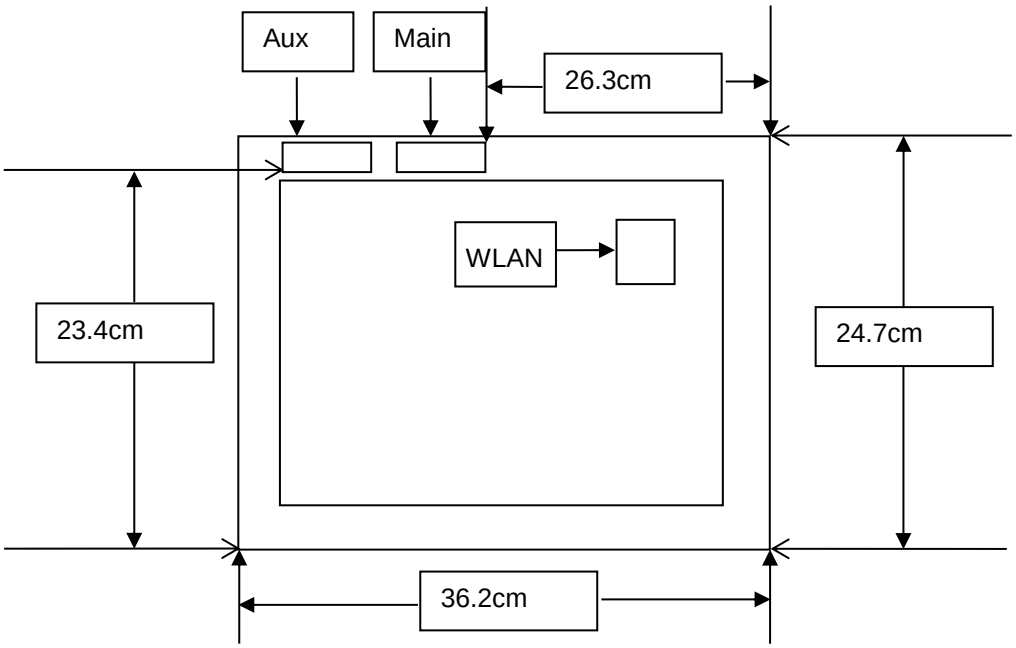
Frequency (MHz)	Peak Gain w/o Cable Loss (dBi)
6875-7125	1.43



Section 4. Antenna Host Platform Location Information

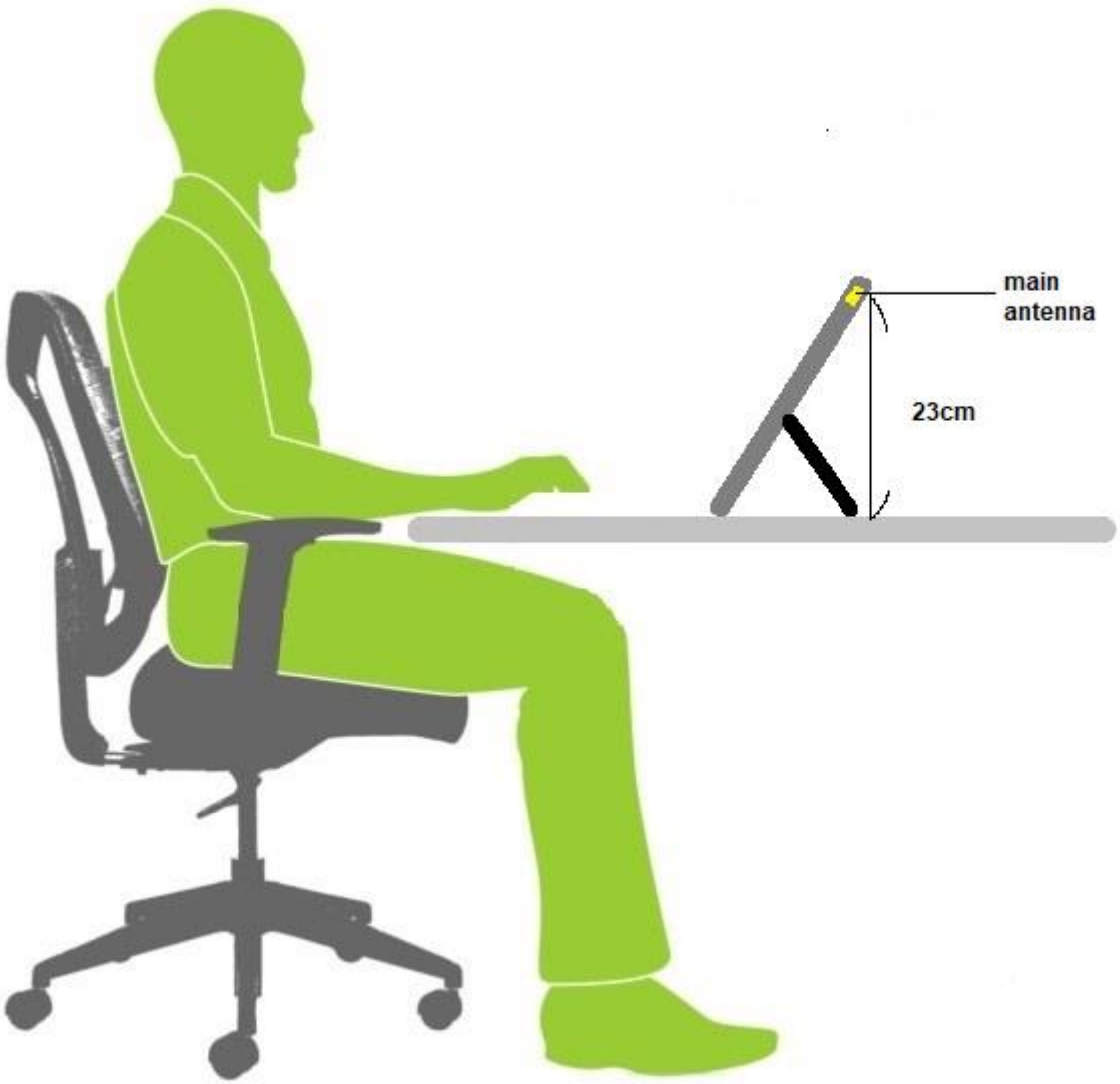
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux antenna placements (measurements are not required for receive-only antenna).

Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.

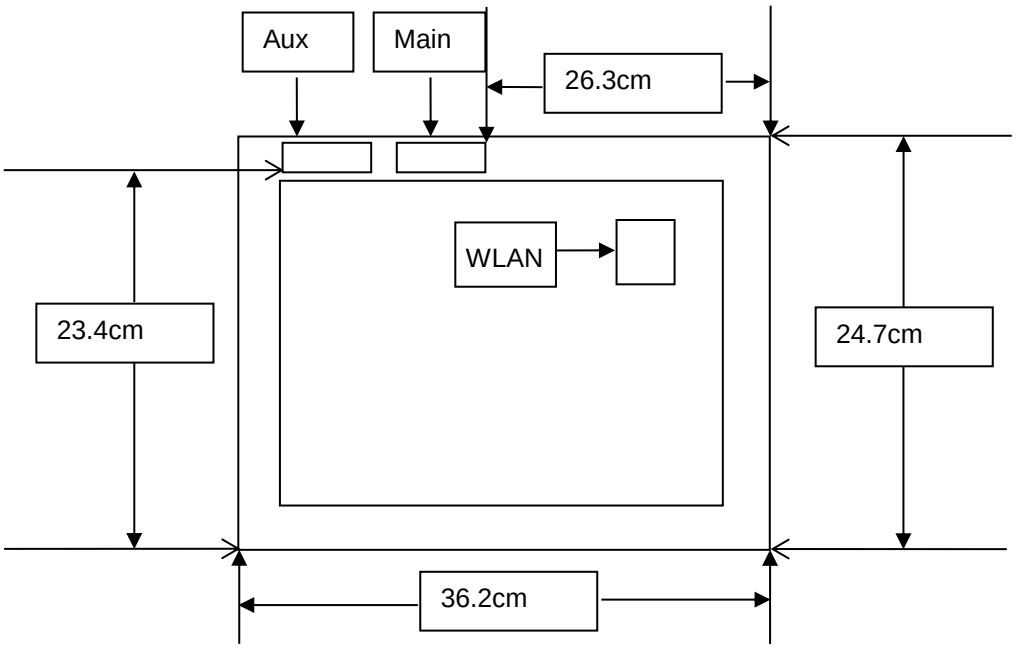


Section 5. Antenna dimensional information for SAR evaluation

Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.



Section 6. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between **all WLAN transmit antennas** and other co-located radiator transmit antenna such as Bluetooth, WWAN,..

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)